

ABSTRACT OF THE DISCLOSURE

[0044] A low-cost technique to improve the performance of optical disk drives is presented. An algorithm is used to decouple electro-mechanical actuators thus compensating for inaccuracies in the control of the actuators. A similar method can be used to decouple the position sensors. Prior art methods treated cross-coupling between focus, tracking and sled control loops as noise and therefore increased the bandwidth of the system, also increasing the cost of the optical disk drive. The present disclosure actively decouples the control loops using a software algorithm to provide better performing optical disk drives. The cross-coupling effects are measured, a decoupling matrix is determined, and the output of the control laws is modified so as to decouple the actuators.